

National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

**Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for the Wheeling-Pittsburgh Steel Corporation
Steubenville North Plant WWTP**

Public Notice No.:
Public Notice Date:
Comment Period Ends:

OEPA Permit No.:OID00033*GD
Application No.:OH0011347

Name and Address of Applicant:

Wheeling-Pittsburgh Steel Corp.
1134 Market Street

Wheeling, West Virginia 26003

**Name and Address of Facility Where
Discharge Occurs:**

Wheeling-Pittsburgh Steel Corp.
Steubenville North Plant

South Third Street
Steubenville, Ohio 43952

Receiving Water: Wells Run and
The Ohio River

**Subsequent
Stream Network:** Ohio River
Mississippi River

Introduction

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

The draft permit contains effluent limits developed to comply with the requirements of Ohio Administrative Code (OAC) Section 3745-1-05. Any person who believes that these limits are eligible for revision in accordance with Section 3745-1-05(B) of the OAC may request the Director to consider such revision. Please contact the staff of the Division of Water Pollution Control, Economic Evaluation Unit at (614) 644-2001 to obtain specific instructions and the forms necessary to make the request.

Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section
Ohio Environmental Protection Agency
P.O. Box 1049
1800 WaterMark Drive
Columbus, Ohio 43266-0149**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency
Attention: Division of Water Pollution Control
Permits Section
P.O. Box 1049
1800 WaterMark Drive
Columbus, Ohio 43266-0149**

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

Location of Discharge

Wheeling-Pittsburgh Steel Corporation (hereafter referred to as WPS) Steubenville North Plant is located in Jefferson County and discharges to Wells Run at River Miles (RM) 0.20 (outfall 001), River Miles 0.12 (outfall 002), River Miles 0.18 (outfall 005), and River Miles 0.10 (outfall 004). Wells Run, a backwater of the Ohio River, enters the Ohio River at RM 68.5. WPS also discharges to the Ohio River at RM 912.61 (outfall 003). Figure 1 shows the approximate location of this facility.

Facility Description

WPS pickles rolls of strip steel and manufactures iron. Their processes involve blast furnace and pickler. The process operations performed at WPS are classified under the Standard Industrial Classification (SIC) Code 3312: Blast Furnaces, Steel Works, and Rolling Mills. The Iron and Steel Manufacturing Point Source Category Effluent Limitations Guidelines of the Code of Federal Regulations (40 CFR 420) apply to the process wastewaters generated at this facility.

Tables 1a and 1b provide descriptions of the WPS internal monitoring stations, outfalls, the types of wastewater, the treatment systems used, and the discharge points.

Description of Existing Discharges (present status)

There are five outfalls and three internal monitoring stations with effluent tables in the permit for WPS (North) facility. There is also one calculated outfall 019. The five outfalls are 001, 002, 003, 004, and 005. In their attempt to solve some of the facility's pH exceedances at outfall 002, WPS (North) diverted the outfall 002 to a new discharge into the same Wells Run. The agency is in the process of assigning a new outfall number for this routed discharge. Except for outfall 003 which goes directly to Ohio River, the other outfalls discharge to Wells Run. The three internal outfalls are 601 (discharge via 003), 603, and 604 (both discharging via 001).

Several changes are happening and will be happening at WPS (North) facility in near future. Near-term planning at the WPS (North) plant is to discontinue use of the #1 Blast Furnace and Boiler house. When this happens, outfall 003 will no longer have process water and should be mainly stormwater, possibly some non-contact cooling water, steam condensate, and floor drains.

The pickler line will continue to have process water. Although the current production at the #3 Pickle Line has increased slightly from the previous permit, WPS (North) do not need any increase above current permit limitations.

WPS (North) has requested to keep the 301(g) variance limits in the permit for Ammonia - N and Phenol. The substitution of anthracite coal for part of the coke in the blast furnace has increased the previous discharge levels of Ammonia-N and Phenol from the blast furnace wastewater treatment. The facility has been conducting trials using sodium hypochlorite to reduce the Ammonia - N levels in the blast furnace recycle system. They are also treating the discharge with dechlorinating agent to reduce chlorine levels.

Receiving Stream Impacts

There is no recent information to assess the impact of the discharges from this facility to the receiving stream.

**FIGURE 1: Approximate location of the Wheeling-Pittsburgh Steel Corporation
Steubenville North Plant, South Third Street, Steubenville, Ohio**

Table 1a: Description of WPS internal monitoring stations and treatment systems used

Outfall	Types of Waste	Treatment System Used	Discharge Point	Flow
601	Blast furnace contact and non-contact cooling water Gas scrubber wastewater	Evaporation Flocculation Sedimentation Screening Sand filtration	Outfall 003	(0.09 MGD)
603	Storm water runoff	Discharge to surface water	Outfall 001	
604	Floor drainage Storm water runoff	Discharge to surface water	Outfall 001	

Table 1b: Description of WPS outfalls and treatment systems used

Outfall	Types of Waste	Treatment System Used	Discharge Point
001	Non-contact cooling water Floor drainage Storm water runoff (0.005 MGD)	Discharge to surface water	Wells Run (RM 0.2)
002	Non-contact cooling water Floor drainage Storm water runoff (0.029 MGD)	Discharge to surface water	Wells Run (RM 0.12)
003	Blast furnace contact and non-contact cooling water Gas scrubber wastewater Recycle system blowdown Boiler and cooling tower blowdown Floor drainage Storm water runoff (46.8 MGD)	Evaporation Flocculation Sedimentation Screening Slow sand filtration	Ohio River (RM 68.8)
004	Non-contact cooling water Floor drainage Storm water runoff (0.04 MGD)	Discharge to surface water	Wells Run (RM 0.1)
005	Coldmill/pickler treatment facility effluent Oil wastes from temper mill Non-contact cooling water Floor drainage Storm water runoff (0.335 MGD)	Mixing Coagulation Flocculation Sedimentation Vacuum Filtration	Wells Run (RM 0.12)

Discharge Location and Receiving Stream

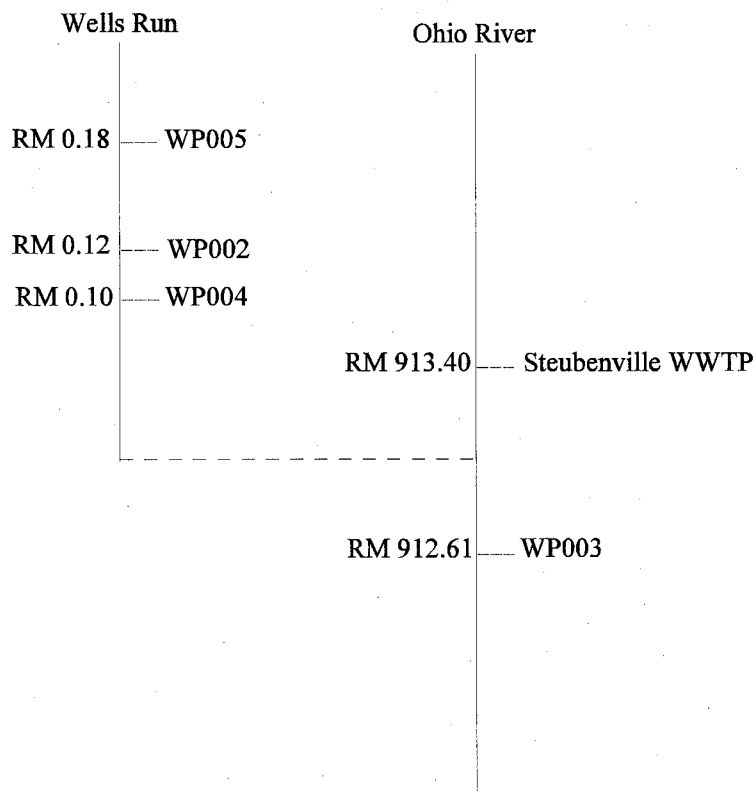
Stream Location:	Ohio River, RM 912.61
	Wells Run, RM 0.18 to 0.10
Stream Network:	Ohio River
Major Basin:	Ohio River
Ohio EPA River Code:	25-650
USEPA River Reach number:	05030101-001
Designated Stream Uses:	Warmwater Habitat
	Agricultural Water Supply
	Public Water Supply

Development of Water-Quality-Based Effluent Limits

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

The Wheeling Pittsburgh Steel North discharges are interactive with the Steubenville WWTP. The assimilative capacity of the Ohio River was distributed using the Conservative Substance Wasteload Allocation (CONSWLA) model. Several of the Wheeling Pittsburgh outfalls discharge to Wells Run in the backwaters of the Ohio River. For modeling purposes, these outfalls were treated as direct discharges to the Ohio River.

Figure 1. Ohio River Study Area



Parameter Selection

Effluent data for Wheeling Pittsburgh Steubenville North were used to determine what parameters should undergo wasteload allocation. The sources of effluent data are as follows:

Self-monitoring data (LEAPS)	January 1999 through December 2003
Form 2c data	1998
OEPA data	2001

The effluent data were checked for outliers and the following values were eliminated from the data set:

005	Zinc	1000 µg/l
005	Copper	92 µg/l
003	NH ₃ -N	8.8 mg/l
003	NH ₃ -N	2.1 mg/l

The average and maximum projected effluent quality (PEQ) values are presented in Table 1. For a summary of the screening results, refer to the parameter groupings at the end of this section. The current permit limits for NH₃-N were evaluated and are adequate to maintain the WQS for NH₃-N. Therefore, NH₃-N will not be addressed further in this report.

Wasteload Allocation

For those parameters that require a wasteload allocation (WLA), the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. The applicable waterbody uses for this facility's discharge and the associated stream design flows are as follows:

Aquatic life (WWH)	Average	Annual 7Q10
Toxics (metals, organics, etc.)	Maximum	Annual 7Q10
Agricultural Water Supply		Harmonic mean flow
Human Health (nondrinking)		Harmonic mean flow

Allocations are developed using a percentage of stream design flow (as specified in Table 3), and allocations cannot exceed the Inside Mixing Zone Maximum criteria.

The data used in the WLA are listed in Tables 2 and 3. The wasteload allocation results to maintain all applicable criteria are presented in Tables 4 through 7.

Reasonable Potential

The preliminary effluent limits are the lowest average WLA (average PEL) and the maximum WLA (maximum PEL). To determine the reasonable potential of the discharger to exceed the WLA for each parameter, the facility's effluent quality is compared to the preliminary effluent limits. The average PEQ value (Table 1) is compared to the average PEL, and the maximum PEQ value is compared to the maximum PEL. Based on the calculated percentage of the respective average and maximum comparisons, the parameters are assigned to "groups", as listed in Tables 8 through 11.

Whole Effluent Toxicity

The allowable effluent toxicity (AET) is a factor considered in evaluating whole effluent toxicity. The AET calculations are similar to those for aquatic life criteria (using the chronic toxicity unit (TU_c) and 7Q10 for average and the acute toxicity unit (TU_a) and 1Q10 for maximum). For the Wheeling Pittsburgh Steubenville North discharges, the AET values are as follows:

Outfall	TU_c	TU_a
005	1134.	1.0
002	13107.67	1.0
004	9514.87	1.0
003	9.15	0.44

Table 1. Effluent Data for Wheeling Pittsburgh Steubenville North

Parameter	Units	# of Samples	# > MDL	Average PEQ	Maximum PEQ
OUTFALL 005					
<u>LEAPS Data</u>					
Copper	µg/l	178	43	8.54	12.85
Lead	µg/l	256	87	4.65	6.02
Zinc	µg/l	255	93	53.25	69.44
OUTFALL 002					
<u>LEAPS Data</u>					
Copper	µg/l	130	102	57.77	86.21
Iron	µg/l	59	59	34164.	46800.
Lead	µg/l	130	98	100.03	116.89
Zinc	µg/l	130	119	785.66	1029.
OUTFALL 004					
<u>LEAPS Data</u>					
Copper	µg/l	128	90	41.27	61.08
Lead	µg/l	128	114	88.51	120.37
Zinc	µg/l	128	128	644.96	984.24
OUTFALL 003					
<u>LEAPS Data</u>					
NH3-N (summer)	mg/l	88	23	0.29	0.43
NH3-N (winter)	mg/l	61	29	0.26	0.40
Copper	µg/l	129	77	17.	25.72
Cyanide, free	µg/l	132	6	30.	40.
Lead	µg/l	129	78	8.97	13.14
Zinc	µg/l	129	103	64.31	98.42
<u>2c Data</u>					
Aluminum	µg/l	54	54	1360.	1860.
Barium	µg/l	2	2	120.	170.
Boron	µg/l	1	1	190.	270.
Manganese	µg/l	2	2	620.	850.
NO2+NO3	mg/l	2	2	3.38	4.64
Phosphorus	mg/l	2	2	0.19	0.27
Strontium	µg/l	1	1	710.	970.
Sulfate	mg/l	1	1	362.	496.
TDS	µg/l	1	1	932000.	1277000.

Table 2. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Human Health	Average Agri-culture	Aquatic Life	Maximum Aquatic Life	
Barium	µg/l	--	--	220.	2000.	4000.
Boron	µg/l	--	--	950.	8500.	17000.
Bromodichloromethane	µg/l	460.	--	--	--	--
Bromoform	µg/l	43.	--	230.	1100.	2200.
Bromomethane	µg/l	48.	--	16.	38.	75.
Cadmium	µg/l	--	50.	3.	6.1	12.
Chlorine, total residual	µg/l	--	--	11.	19.	38.
Chloroform	µg/l	57.	--	140.	1300.	2600.
Chromium ⁺⁶ , diss	µg/l	--	--	11.	16.	31.
Chromium, total	µg/l	--	100.	110.	2200.	4500.
Copper	µg/l	--	500.	12.	18.	36.
Cyanide, free	µg/l	700.	--	5.0	22.	44.
Dibromochloromethane	µg/l	340.	--	--	--	--
Iron	µg/l	--	5000.	--	--	--
Lead	µg/l	--	100.	9.	170.	340.
Mercury	µg/l	0.012	10.	0.91	1.7	3.4
Nickel	µg/l	610.	200.	65.	590.	1200.
NO ₂ +NO ₃	mg/l	10.	100.	--	--	--
Phenol	µg/l	21000.	--	400.	4700.	9400.
Phenolics	µg/l	5.0	--	--	--	--
Strontium	µg/l	--	--	770.	6900.	14000.
TDS	µg/l	--	--	1500000.	--	--
Zinc	µg/l	9100.	25000.	150.	150.	300.
OUTFALL 005						
Copper	µg/l	--	500.	12.	18.	100. ^A
Lead	µg/l	--	100.	9.	170.	1400. ^A
Zinc	µg/l	9100.	25000.	150.	150.	780. ^A

^A Based on the maximum allowable hardness value of 400 mg/l.

Table 3. Instream Conditions and Discharger Flow

Parameter	Units		Value	Basis
7Q10	cfs	annual	5800.	USGS
Harmonic Mean Flow	cfs	annual	23000.	USGS
Mixing Assumption	%	average	10.	Stream-to-discharge ratio
	%	maximum	1.	Stream-to-discharge ratio
Instream Hardness 005	mg/l	annual	130.	STORET
	mg/l	annual	400.	Set to maximum allowable.
Background Water Quality:				
Barium	µg/l	annual	40.	ORSANCO 19 values, 0<MDL, 92-98
Cadmium	µg/l	annual	0.	ORSANCO 39 values, 39<MDL, 92-98
Chromium,tot	µg/l	annual	0.	ORSANCO 19 values, 19<MDL, 92-98
Chromium ⁺⁶ ,diss	µg/l	annual	0.	No representative data available
Cyanide, free	µg/l	annual	0.	ORSANCO 20 values, 20<MDL, 92-98
Copper	µg/l	annual	2.5	ORSANCO 39 values, 31<MDL, 92-98
Iron	µg/l	annual	690.	ORSANCO 39 values, 0<MDL, 92-98
Lead	µg/l	annual	1.	ORSANCO 39 values, 30<MDL, 92-98
Mercury	µg/l	annual	0.	No representative data available
Nickel	µg/l	annual	0.	ORSANCO 19 values, 19<MDL, 92-98
NO ₂ +NO ₃	mg/l	annual	0.95	ORSANCO 39 values, 0<MDL, 92-98
Phenolics	µg/l	annual	0.	No representative data available
Strontium	µg/l	annual	0.	No representative data available
TDS	µg/l	annual	382000.	BWQR
TRC	µg/l	annual	0.	No representative data available
Zinc	µg/l	annual	22.	ORSANCO 39 values, 12<MDL, 92-98
Wheeling Pittsburgh Steel Effluent Flows:				
005	cfs		0.52	DSW
002	cfs		0.045	DSW
004	cfs		0.062	DSW
003	cfs		72.4	DSW

BWQR - Background Water Quality Report

Table 4. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria for Outfall 005

Parameter	Units	Average			Maximum Aquatic Life	Inside Mixing Zone Maximum
		Human Health	Agri Supply	Aquatic Life		
Copper	µg/l	--	14402. ^A	79.	29.	100.
Lead	µg/l	--	2852. ^A	62.	289.	1400.
Zinc	µg/l	262777. ^A	722989. ^A	1052. ^A	240.	780.

^A Allocation must not exceed the Inside Mixing Zone Maximum.

Table 5. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria for Outfall 002

Parameter	Units	Average			Maximum Aquatic Life	Inside Mixing Zone Maximum
		Human Health	Agri Supply	Aquatic Life		
Copper	µg/l	--	14402. ^A	79. ^A	29.	36.
Iron	µg/l	--	2.21E8	--	--	--
Lead	µg/l	--	2852. ^A	62.	289.	340.
Zinc	µg/l	262777. ^A	722989. ^A	1052. ^A	240.	300.

^A Allocation must not exceed the Inside Mixing Zone Maximum.

Table 6. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria for Outfall 004

Parameter	Units	Average			Maximum Aquatic Life	Inside Mixing Zone Maximum
		Human Health	Agri Supply	Aquatic Life		
Copper	µg/l	--	14402. ^A	79. ^A	29.	36.
Lead	µg/l	--	2852. ^A	62.	289.	340.
Zinc	µg/l	262777. ^A	722989. ^A	1052. ^A	240.	300.

^A Allocation must not exceed the Inside Mixing Zone Maximum.

Table 7. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria for Outfall 003

Parameter	Units	Average			Maximum Aquatic Life	Inside Mixing Zone Maximum
		Human Health	Agri Supply	Aquatic Life		
Barium	µg/l	--	--	1500.	3407.	4000.
Copper	µg/l	--	14402. ^A	79. ^A	29.	36.
Cyanide, free	µg/l	23033. ^A	--	48. ^A	43.	44.
NO ₂ +NO ₃	mg/l	265.	2890.	--	--	--
Lead	µg/l	--	2852. ^A	62.	289.	340.
Phenolics ^B	µg/l	165.	--	--	--	--
Strontium	µg/l	--	--	6244.	11853.	14000.
TDS	µg/l	--	--	1.22E7	--	--
Zinc	µg/l	262777. ^A	722989. ^A	1052. ^A	240.	300.

^A Allocation must not exceed the Inside Mixing Zone Maximum.

^B Parameter would not require a WLA based on reasonable potential procedures, but allocation requested for use in pretreatment program.

Table 8. Parameter Assessment for Outfall 005

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

No parameters fit the criteria of this group.

Group 2: $PEQ < 25\%$ of WQS or all data below minimum detection limit; WLA not required. No limit recommended, monitoring optional.

No parameters fit the criteria of this group.

Group 3: $PEQ_{max} < 50\%$ of maximum PEL and $PEQ_{avg} < 50\%$ of average PEL. No limit recommended, monitoring optional.

Copper

Lead

Zinc

Group 4: $PEQ_{max} \geq 50\%$ but $< 100\%$ of the maximum PEL or $PEQ_{avg} \geq 50\%$ but $< 100\%$ of the average PEL. Monitoring is appropriate.

No parameters fit the criteria of this group.

Group 5: Maximum $PEQ \geq 100\%$ of the maximum PEL or average $PEQ \geq 100\%$ of the average PEL, or either the average or maximum PEQ is between 75 and 100% of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

No parameters fit the criteria of this group.

Table 9. Parameter Assessment for Outfall 002

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

No parameters fit the criteria of this group.

Group 2: $PEQ < 25\%$ of WQS or all data below minimum detection limit; WLA not required. No limit recommended, monitoring optional.

No parameters fit the criteria of this group.

Group 3: $PEQ_{max} < 50\%$ of maximum PEL and $PEQ_{avg} < 50\%$ of average PEL. No limit recommended, monitoring optional.

Iron

Group 4: $PEQ_{max} \geq 50\%$ but $< 100\%$ of the maximum PEL or $PEQ_{avg} \geq 50\%$ but $< 100\%$ of the average PEL. Monitoring is appropriate.

No parameters fit the criteria of this group.

Group 5: Maximum $PEQ \geq 100\%$ of the maximum PEL or average $PEQ \geq 100\%$ of the average PEL, or either the average or maximum PEQ is between 75 and 100% of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

Parameter	Units	Applicable Period	Recommended Effluent Limits	
			Average	Maximum
Copper	µg/l	annual	--	29.
Lead	µg/l	annual	62.	289.
Zinc	µg/l	annual	--	240.

Table 10. Parameter Assessment for Outfall 004

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

No parameters fit the criteria of this group.

Group 2: $PEQ < 25\%$ of WQS or all data below minimum detection limit; WLA not required. No limit recommended, monitoring optional.

No parameters fit the criteria of this group.

Group 3: $PEQ_{max} < 50\%$ of maximum PEL and $PEQ_{avg} < 50\%$ of average PEL. No limit recommended, monitoring optional.

No parameters fit the criteria of this group.

Group 4: $PEQ_{max} \geq 50\%$ but $< 100\%$ of the maximum PEL or $PEQ_{avg} \geq 50\%$ but $< 100\%$ of the average PEL. Monitoring is appropriate.

No parameters fit the criteria of this group.

Group 5: Maximum $PEQ \geq 100\%$ of the maximum PEL or average $PEQ \geq 100\%$ of the average PEL, or either the average or maximum PEQ is between 75 and 100% of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

Parameter	Units	Applicable Period	<u>Recommended Effluent Limits</u>	
			Average	Maximum
Copper	µg/l	annual	--	29.
Lead	µg/l	annual	62.	289.
Zinc	µg/l	annual	--	240.

Table 11. Parameter Assessment for Outfall 003

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

Aluminum
Sulfate

Phosphorus

Manganese

Group 2: $PEQ < 25\%$ of WQS or all data below minimum detection limit; WLA not required. No limit recommended, monitoring optional.

Boron

Group 3: $PEQ_{max} < 50\%$ of maximum PEL and $PEQ_{avg} < 50\%$ of average PEL. No limit recommended, monitoring optional.

Barium
Strontium

Lead
TDS

NO₂+NO₃
Zinc

Group 4: $PEQ_{max} \geq 50\%$ but $< 100\%$ of the maximum PEL or $PEQ_{avg} \geq 50\%$ but $< 100\%$ of the average PEL. Monitoring is appropriate.

No parameters fit the criteria of this group.

Group 5: Maximum $PEQ \geq 100\%$ of the maximum PEL or average $PEQ \geq 100\%$ of the average PEL, or either the average or maximum PEQ is between 75 and 100% of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

Parameter	Units	Applicable Period	Recommended Effluent Limits	
			Average	Maximum
Copper	ug/l	annual	--	29.
Cyanide, free	ug/l	annual	--	43.

Final Effluent Limitations, Monitoring Requirements and their Justification

Effluent tables 12, 13, 14, 15, and 16 describe outfalls 001, 002, 003, 004, and 005 respectively. Effluent table 18 describes internal monitoring stations 601. Effluent table 19 describes both internal monitoring stations 603 and 604. Table 20 describes the calculated outfall 019 which is a summation of pollutants discharged from outfalls 001, new number for 002, 004 and 005. Table 17 describes stormwater outfalls 010 thru 018.

It is mentioned here (though it is known to all regulated facilities) that Surface Water Rules (Rule 3745-33-05 (C)(1)) of the Ohio Administrative Code that became effective on October 31, 1997 requires the permit effluent table to state authorized discharge level of pollutants in terms of volume, weight in kg/day and where appropriate, concentration. It is important to note here that the flexibility of not including concentration limits for pollutants is only applicable for permit limits that are not water quality based. Therefore, some of the effluent tables that did not have both loading and concentration limits in the current permit (that was issued prior to the establishment of rule 3745-33-05) have now been revised to include both limits in this draft permit.

Effluent tables have been written based on WLA results, existing permit requirements and best professional judgement. Among few notable changes are addition of total residual chlorine limitation at internal station 601 and chlorine monitoring at outfall 003. Chlorine has been infrequently used in the blast furnace system and the discharge is treated with a dechlorinating agent. However, chlorine has been detected 0.13 mg/l at 601 and 0.21 mg/l at 003 in the renewal application. Federal Effluent Guidelines

require chlorine limitation when chlorine bearing wastestream may be present.

Ohio EPA did toxicity tests in February 2001 for outfall 003. The effluents were not acutely toxic. No fathead minnow died or displayed other adverse effects in the ambient waters and effluents. Conductivity, comparisons of the upstream, effluent grab, and acute mixing zone indicate the acute mixing zone sample contained approximately 40 percent by volume effluent. Survival in the laboratory control was 100 percent. The *Ceriodaphnia* test results were invalid. Test was inadvertently not checked after 48-hours exposure. Based on this result and in absence of any other recent toxicity test results, no bioassay requirement has been recommended in the permit.

Table 12: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfall 01D00033001 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration		Loading (kg/day) ^a		
		30 Day Average	Daily Maximum	Daily Average	Maximum	

No direct limits for this outfall. The discharge is limited to non-contact cooling water, stormwater and floor drains from stations 01D00033603 and 01D00033604. Summation of loadings at 01D00033603 and 01D00033604 will give total loadings discharged from this outfall 01D00033001. Flow monitoring recommended in the permit.

Table 13: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfall 01D00033002 and their Justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration		Loading (kg/day) ^a		
		30 Day Average	Daily Maximum	Daily Average	Maximum	
Flow	MGD		-- Monitor --		-- Monitor --	M ^c
Temperature	°C		-- Monitor --		-- Monitor --	M ^c
TSS	mg/l		-- Monitor --		-- Monitor --	M ^c
Oil and Grease	mg/l		-- Monitor --		-- Monitor --	M ^c
pH	S.U.		- 6.5 to 9.0 -		- 6.5 to 9.0 -	WQS
Copper	µg/l	—	29	—	0.003	WLA
Lead	ug/l	62	289	0.006	0.032	WLA
Zinc	ug/l	—	240	—	0.026	WLA

^a Effluent loadings based on average design discharge flow of 0.029 MGD.

^b Definitions: WQS = Ohio Water Quality Standards (OAC 3745-1) ; WLA = Waste Load Allocation (OAC 3745-2-05).

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality.

Table 14: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfall OID00033003 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration		Loading (kg/day) ^a		
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --	-- Monitor --		M ^c	
Temperature	°C	-- Monitor --	-- Monitor --		M ^c	
Total Suspended Solids	mg/l	-- Monitor --	-- Monitor --		M ^c	
Oil and Grease	mg/l	-- Monitor --	-- Monitor --		M ^c	
pH	S.U.	- 6.5 to 9.0 -		- 6.5 to 9.0 -	WQS	
Cyanide, Free	mg/l	-	0.043	-	4.8	WLA/ABS
Copper	µg/l	--	29	--	5.13	WLA
TRC	ug/l	-- Monitor --	-- Monitor --		BPJ	
Zinc	ug/l	-- Monitor --	-- Monitor --		BPJ	

^a Effluent loadings (except for Cyanide) are based on average discharge flow of 46.8 MGD. Cyanide load is based on existing permit.

^b Definitions: WLA = Waste Load Allocation rule; WQS = Ohio Water Quality Standards (OAC 3745-1); ABS = Antibacksliding rule; BPJ= Best Professional Judgement.

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality and treatment plant performance.

Table 15: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfall OID00033004 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration	Daily Maximum	Loading (kg/day) ^a		
		30 Day Average		30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --	-- Monitor --		M ^c	
Temperature	°C	-- Monitor --	-- Monitor --		M ^c	
Total Suspended Solids	mg/l	-- Monitor --	-- Monitor --		M ^c	
Oil and Grease	mg/l	-- Monitor --	-- Monitor --		M ^c	
pH	S.U.	- 6.5 to 9.0 -		- 6.5 to 9.0 -	WQS	
Zinc	µg/l	—	240	—	0.036	WLA
Lead	ug/l	62	289	0.009	0.043	WLA
Copper	ug/l	—	29	—	0.004	WLA

^a Effluent loadings based on average design discharge flow of 0.04 MGD.

^b Definitions: WLA = Waste Load Allocation; WQS = Ohio Water Quality Standards (OAC 3745-1).

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality.

Table 16: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville, North Plant's outfall OID00033005 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration		Loading (kg/day) ^a		
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --	-- Monitor --		M ^c	
Total Suspended Solids	mg/l	--	--	67.9	159	Existing/BPT
Oil and Grease	mg/l	--	--	22.7	67.9	Existing/BPT
pH	S.U.	- 6.5 to 9.0 -	--	- 6.5 to 9.0 -	WQS	
Lead	µg/l	--	--	0.45	1.36	Existing/BAT
Zinc	µg/l	--	--	0.34	1.02	Existing/BAT
Copper	ug/l	--	--	--	--	M ^c

^a Flow from this outfall is 0.335 MGD.

^b Definitions: BPT = Best Practical Control Technology Currently Available as found in 40 CFR 420.92; BAT = Best Available Technology Economically Achievable as found in 40 CFR 420.93; Existing = Existing Permit limits; WQS = Ohio Water Quality Standards (OAC 3745-1).

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality and treatment plant performance.

Table 17: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfalls OID00033010, OID00033011, OID00033012, OID00033013, OID00033014, OID00033015, OID00033016, OID00033017, and OID00033018, and their justification.

Parameter	Effluent Limits					Basis
	Concentration		Loading (kg/day)			
	30 Day Units	Daily Average	30 Day Maximum	Daily Average	Maximum	
Flow	MGD					M ^a
Iron	ug/l					M ^a
Zinc	µg/l					M ^a
pH	SU					M ^a

^a Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality and treatment plant performance.

Table 18: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfall OID00033601 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration			Loading (kg/day) ^a	
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --	-- Monitor --		M ^c	
Total Suspended Solids	mg/l	--	--	78	234.6	BPT
pH	S.U.	-- Monitor --	-- Monitor --		M ^c	
Ammonia-N	mg/l	--	--	45.3	90.7	Variance Limit
Cyanide, Total	mg/l	--	--	2.628	5.25	BAT
Lead	µg/l	--	--	0.2628	0.789	BAT
Phenolic 4AAP, total	µg/l	--	--	0.45	0.90	Variance Limit
Zinc	µg/l	--	--	0.393	1.182	BAT
TRC	mg/l	--	--	--	0.438	BAT

^a Flow from this outfall is 0.09 MGD.

^b Definitions: BPT = Best Practical Control Technology Currently Available as found in 40 CFR 420.32 (a); BAT = Best Available Technology Economically Achievable as found in 40 CFR 420.33 (a); Variance Limit = Modified Effluent Limits based on 301(g) variance; WQS = Ohio Water Quality Standards (OAC 3745-1).

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality and treatment plant performance.

Table 19: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's outfalls 01D00033603 and 01D00033604 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration	Daily Maximum	Loading (kg/day) ^a		
		30 Day Average		30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --	-- Monitor --			M ^c
Suspended Solids	mg/l	-- Monitor --	-- Monitor --			M ^c
Oil and Grease	mg/l	-- Monitor --	-- Monitor --			M ^c
pH	S.U.	-- Monitor --	-- Monitor --			M ^c
Zinc	ug/l	-- Monitor --	-- Monitor --			Existing Permit
Lead	ug/l	-- Monitor --	-- Monitor --			Existing Permit
Copper	ug/l	-- Monitor --	-- Monitor --			Existing Permit

^a Flow from both the internal outfalls to be monitored so that loads for the parameters be calculated and used at 01D00033001.

^b Definitions: M= Monitoring

^c Monitoring of flow and indicator parameters will assist in the evaluation of effluent quality.

Table 20: Final Effluent Limits and Monitoring Requirements for Wheeling-Pittsburgh Steel Corporation, Steubenville North Plant's calculated* outfall 01D00033019 and their justification.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration	Daily Maximum	Loading (kg/day) ^a		
		30 Day Average		30 Day Average	Daily Maximum	
Flow	MGD	-- Monitor --		-- Monitor --		M ^c
Zinc, Total Recoverable	ug/l	--	240	--	0.372	WLA ^c
Lead, Total recoverable	ug/l	62	289	0.095	0.447	WLA ^c
Copper	ug/l	--	29	--	0.044	WLA ^c

* This is a calculated outfall that will report the summation of pollutants discharged from outfalls 01D00033001, new outfall for 002, 01D00033004 and 01D00033005.

^a Effluent loadings based on average design discharge flow of 0.409 MGD.

^b Definitions: WLA = Waste Load Allocation (OAC 3745-2-05); M = Monitoring

^c Monitoring of flow - weighted summations of concentrations for all four outfalls is needed to evaluate loading compliance.

Table 20 gives the unaltered Monthly Operating Report (MOR) data of WPS (N) from January 1999 thru December 2003.